



Wisconsin DNR Fisheries Information Sheet



Stream: KC Creek

County: Marinette

Year: 2018

Regulation: Red

Size Limit: Brook trout – 8 inches
Brown trout – 12 inches

Daily Limit: 3

K.C. Creek is a major tributary to the North Branch Pike River. Its watershed is primarily forested and comprised mostly of public land owned by Marinette and Florence Counties. Less than 5% of the shoreline is privately owned. K.C. Creek is 6.7 miles long and averages 13 feet across. Previous trout surveys in the 1950's, 1960's and early 1970's determined that habitat improvements were necessary to enhance the fishery. By the mid 1970's, extensive instream habitat work consisting of bank covers and the placement of large boulders was completed downstream of the Highway 8 bridge crossing. Brook trout were stocked annually from 1937 to 1953, and again from 1957 to 1968.

K.C. Creek was surveyed on August 8 and 10, 2018 to assess the brook and brown trout fisheries. A 0.76-mile section of the creek was sampled at the bridge crossing on Highway 8 west of Dunbar and a 0.19-mile section off of Spur Lake Rd. (T.37N. -R.18E. Section 26). All brook and brown trout collected were measure to the nearest 0.1 inch total length and weighed before being released.

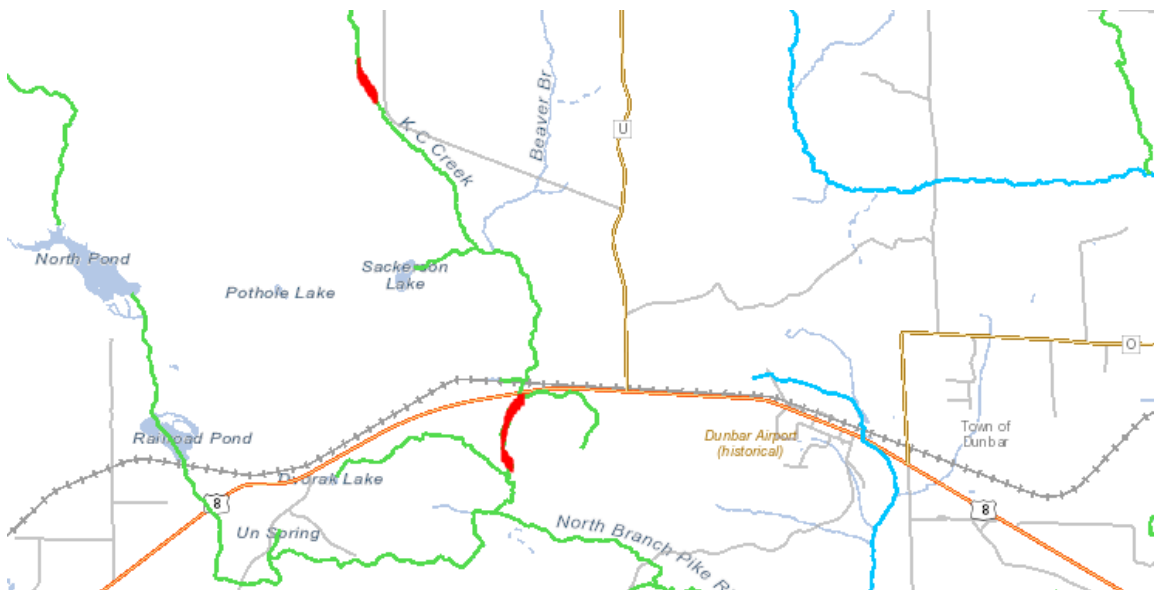


Figure 1. Sampling locations (in red) on KC Creek in Marinette County, WI.

Catch per Unit Effort (CPUE) and Length Frequency

CPUE is a relative abundance index which is often directly related to absolute abundance. Trout fisheries are routinely quantified using CPUE or the number and/or size of trout per mile. CPUE's can be used to compare streams by ecoregion or statewide. This is done by using percentiles (PCTL). For example, if a CPUE is in the 90th PCTL, CPUE is greater than 90% of the CPUE's in that ecoregion or across the state. CPUE percentiles may also be used to categorize trout abundance; 33rd (low abundance), 66th (moderate abundance), 90th (high abundance), and 95th (very high abundance).

The length frequency of trout describes the size structure of the sample or population and is the number of fish captured per 1-inch length group.

BROOK TROUT

A total of 889 brook trout was collected in KC Creek in 2018 (Figure 2). Brook trout ranged in length from 1.8 to 12.4 inches and averaged 5.5 inches (Table 1). The number of brook trout collected increased between 2016 and 2018 and size structure improved (Table 1). One hundred one young-of-the-year (YOY)/mile were collected in 2016 compared to 259 YOY/mile in 2018 (Table 1). Additionally, 8% of the brook trout collected in 2018 were greater than the 8-inch minimum length limit (MLL). While this was a decrease from 2016 (10% > 8 inches) more brook trout over 8 inches were collected in 2018 than in 2016 (Table 1).

Overall, total brook trout CPUE has been variable between 2010 and 2018 but increasing trend over time (Figure 3). However, brook trout CPUE \geq 8 inches has been relatively constant (Figure 3). In terms of abundance, brook trout CPUE \geq 8 inches was high in 2018 and is currently around the 86th PCTL compared to other streams in the Northern Lakes and Forests ecoregion (Table 1). The improvement in total CPUE can be attributed to the large number of YOY collected (Figure 2 & Table 1). Our sampling results in 2018 on KC Creek were nearly identical to what was observed in 2012 (Table 1).

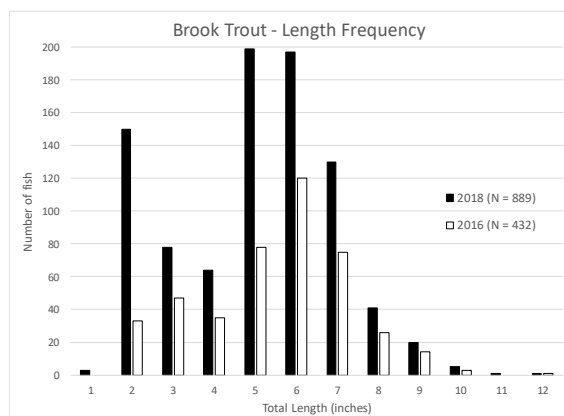


Figure 2. Length frequency of all brook trout collected in KC Creek in 2016 and 2018.

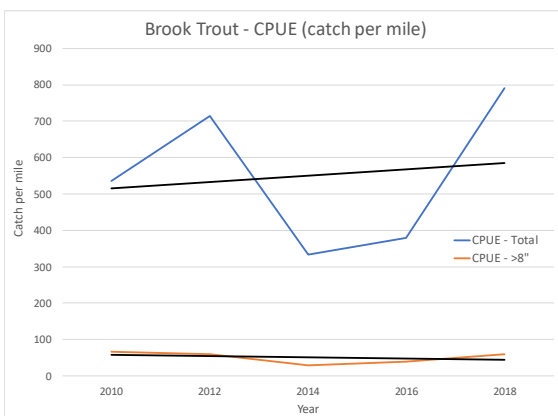


Figure 3. Total CPUE and CPUE of 8" brook trout collected from 2010 through 2018.

Table 1. Brook trout catch per unit effort (CPUE) and percentile (PCTL) by various length groups from 2010 through 2018 in KC Creek.

Year	Average Length (in)	Length Range	Number Collected	CPUE = catch per mile (PCTL - percentile)					
				Total (PCTL)	YOY	> 5" (PCTL)	> 8" (PCTL)	> 10" (PCTL)	> 12" (PCTL)
2010	6.4	2.6 - 11.3	611	536 (74)	96	439 (89)	67 (88)	5 (77)	0
2012	5.5	1.7 - 11.5	814	714 (81)	248	466 (91)	60 (86)	5 (77)	0
2014	5.4	1.7 - 10.5	381	334 (60)	115	219 (71)	28 (70)	4 (74)	0
2016	5.9	2.0 - 12.1	432	379 (63)	101	278 (78)	39 (78)	4 (74)	1 (93)
2018	5.5	1.8 - 12.4	889	790 (83)	259	521 (92)	60 (86)	6 (79)	1 (93)

BROWN TROUT

A total of 74 brown trout was collected in KC Creek (Figure 4). Brown trout ranged in length from 2.9 to 18.8 inches and averaged 9.1 inches (Table 2). The number of brown trout collected increased between 2016 and 2018 and size structure also improved. The average length of brown trout increased from 7.1 inches in 2016 to 9.1 inches in 2018. The dramatic increase in average length can be attributed to the lack of YOY collected in 2018 (Figure 4 and Table 2). Thirteen YOY/mile were collected in 2016 compared to 1 YOY/mile in 2018 (Table 2).

Overall, an increasing trend of total brown trout CPUE was observed between 2010 and 2018 (Figure 5). Brown trout CPUE ≥ 12 inches remained relatively constant until 2018 when it rose to the 85th PCTL compared to other streams in the Northern Lakes and Forests ecoregion. (Figure 5 and Table 2). Additionally, 26% of the brown trout collected in 2018 were greater than the 12-inch MLL which doubled from 13% in 2016 (Figure 4). Total brown trout CPUE is at its highest, recorded level in 8 years and is now at the 48th PCTL (Table 2).

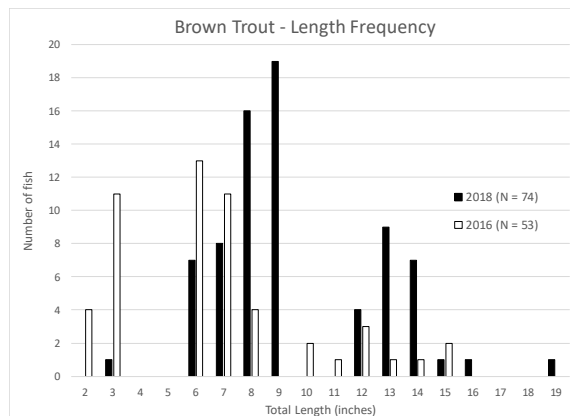


Figure 4. Length frequency of all brown trout collected in the KC Creek in 2016 and 2018.

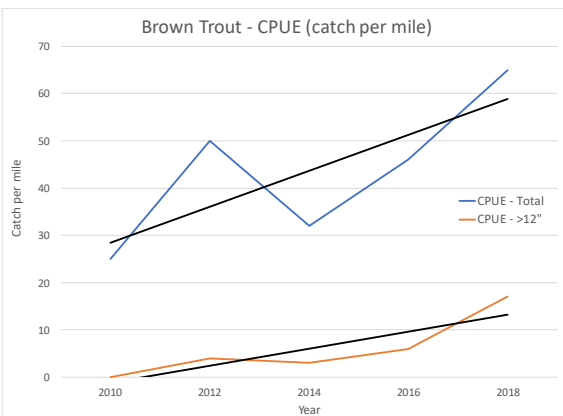


Figure 5. Total CPUE and CPUE of 12" brown trout collected from 2010 through 2018.

Table 2. Brown trout catch per unit effort (CPUE) and percentile (PCTL) by various length groups from 2010 through 2018 in KC Creek.

Year	Average Length (in)	Length Range	Number Collected	CPUE = catch per mile (PCTL - percentile)						
				Total (PCTL)	YOY	> 5" (PCTL)	> 8" (PCTL)	> 10" (PCTL)	> 12" (PCTL)	> 15" (PCTL)
2010	6.9	2.9 - 9.7	28	25 (34)	6	18 (34)	9 (48)	0	0	0
2012	7.5	2.8 - 15.5	57	50 (44)	11	39 (52)	17 (60)	11 (66)	4 (64)	1 (76)
2014	7.9	3.4 - 17.8	37	32 (36)	2	31 (45)	10 (49)	9 (62)	3 (62)	2 (78)
2016	7.1	2.4 - 15.5	53	46 (42)	13	33 (47)	12 (52)	9 (62)	6 (70)	2 (78)
2018	9.1	2.9 - 18.8	74	65 (48)	1	64 (60)	37 (75)	20 (78)	17 (85)	2 (78)

DISCUSSION

The KC Creek supports a quality brook population that has been sustained by natural reproduction since 1982. Between 2016 and 2018, the number of YOY brook trout collected doubled (Figure 2 and Table 4). The lower brook trout total CPUE observed in 2014 and 2016 did not result in a noticeable impact to the total number of brook trout in 2018 (Table 1).

Brown trout have never been a large component of the KC Creek trout fishery (Table 2). While there is likely some brown trout natural reproduction taking place, most brown trout are likely coming from the North Branch Pike River and privately stocked lakes.

CONCLUSIONS & RECOMMENDATIONS

The Youth Adult Conservation Corps installed 29 bank covers, 15 wing deflectors and over 100 feet of rip rap in the mid 1970's along a 1 mile stretch of KC Creek south of Highway 8. Over the past 45 years, these structures have deteriorated to the point that they should be renovated or removed. Currently there are plans to rehabilitate this section of stream over the next several years.

The trout fishery KC Creek is stable and continues to offer anglers an excellent trout fishing opportunity. The current fishing regulations (3 fish daily bag; 8-inch MLL for brook trout; 12-inch MLL for brown trout) appear to be adequate. However, if total brook trout CPUE remains high (i.e. > 500/mile), consideration should be given to removing the MLL and increasing the daily bag limit on both brook and brown trout on KC Creek (and connected streams) north of Highway 8. The proposed regulation change would likely not impact the number of brown trout in KC Creek since only 6 have been collected upstream of Highway 8 since 2010.

Questions regarding fisheries management activities for KC Creek:

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